

ABSTRACT

A crane return system is used for returning a crane component to a home position when there is a loss of power. A crane includes a bridge with a plurality of main wheels adapted to travel along at least one rail. The crane return system includes a plurality of auxiliary drive wheels supported by the bridge, the auxiliary drive wheels movable between a first position, in which the auxiliary drive wheels are recessed from the rail, and a second position, in which the auxiliary drive wheels are in contact with the rail. When power is supplied to the crane return system the auxiliary drive wheels are in the first position. A hydraulic fluid pressure vessel stores hydraulic fluid, wherein a substantially fixed mass of hydraulic fluid is contained within the crane return system, and a hydraulic cylinder is interconnected with the auxiliary drive wheels and selectively fluidly communicates with the hydraulic fluid pressure vessel. When power is lost to the crane, hydraulic fluid is supplied to the hydraulic cylinder to extend the hydraulic cylinder and thereby move the auxiliary drive wheels from the first position to the second position. A drive motor is interconnected with the auxiliary drive wheels and selectively fluidly communicates with the hydraulic fluid pressure vessel. When the auxiliary drive wheels are in the second position, hydraulic fluid is diverted from the hydraulic cylinder and supplied to the drive motor to rotate the auxiliary drive wheels and move the bridge toward a home position.